Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

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Chest Infections

SESSION TITLE: Medical Student/Resident Chest Infections Posters
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A CASE OF COVID-19-ASSOCIATED ACUTE LIMB ISCHEMIA

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INTRODUCTION: Coronavirus Disease of 2019 (COVID19) is a novel coronavirus declared a pandemic in March 2020 by the World Health Organization. Research is finding that it is an inflammatory and coagulopathic infection, predisposing to thrombotic events even with thromboprophylaxis. We describe a COVID19-positive patient who developed acute limb ischemia.

CASE PRESENTATION: 54-year-old female with OSA, COPD and hypertension presented to the ER with fever, shortness of breath of 7 days. COVID19 PCR was positive. After marked D-dimer elevation, the decision was made to escalate VTE prophylaxis to therapeutic enoxaparin. After refusing doses she developed acute right lower extremity paresthesia and pain. Distal pulses were nonpalpable, fleeting by doppler. Arterial ultrasound suggested proximal arterial occlusion. Heparin drip was started, inflammatory markers and d-dimer improved. A contingency plan for loss of pulses was to utilize alteplase infusion via right femoral arterial line but never required. She developed severe ARDS requiring intubation with proning. She improved, underwent tracheostomy and weaned from ventilation. With negative COVID19 PCRs, peripheral angiography found occlusions of the right popliteal, proximal anterior tibial, peroneal arteries, with chronic posterior tibial occlusion. After thrombectomy and angioplasty, patency with two vessel run-off was achieved, oral anticoagulation started and she was discharged to LTACH.

DISCUSSION: Acute limb ischemia is a vascular emergency that threatens limb viability. Literature review suggests that COVID19 patients are predisposed to thrombotic events due to cytokine storm, stasis, hypoxia, endothelial dysfunction. Multiple retrospective analyses have demonstrated similar incidents of thrombosis ranging from 12-31%. A minority of these events are arterial. D-dimer, platelets, ferritin, IL-6 and LDH correlate with cytokine storm and procoagulant state. Elevated D-dimer levels are an independent predictor of mortality, have strong correlation with complications and are a tool to aid in the decision to escalate standard prophylaxis to therapeutic anticoagulation. Current prophylaxis recommendations include daily unfractionated or low molecular weight heparin. Aggressive prophylactic dosing has been suggested in these patients but clinical benefit has not been confirmed. Research in China has suggested these doses may reduce mortality in severe COVID19 infection by decreasing systemic inflammation early in the illness.

CONCLUSIONS: COVID19 has been shown to be high risk for both arterial and venous thromboembolism. Clinicians should assess therapeutic anticoagulation and lab values such as D-dimer may help with the decision. Given the infectivity of COVID19, precautions must be made to limit unnecessary exposure where possible, as in this case where peripheral intervention was only performed once the patient had completed her treatment course.

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